Name:

at1113exam: Expand, factor, and solve quadratics (v314)

1. Expand the following expression into standard form.

$$(2x + 5)(2x - 5)$$

$$4x^2 - 10x + 10x - 25$$
$$4x^2 - 25$$

2. Solve the equation.

$$(5x - 9)(3x + 7) = 0$$

$$x = \frac{9}{5} \qquad x = \frac{-7}{3}$$

3. Expand the following expression into standard form.

$$(8x - 9)^2$$

$$64x^2 - 72x - 72x + 81$$
$$64x^2 - 144x + 81$$

4. Expand the following expression into standard form.

$$(8x + 3)(2x + 7)$$

$$16x^2 + 56x + 6x + 21$$
$$16x^2 + 62x + 21$$

5. Solve the equation with factoring by grouping.

$$15x^2 + 10x + 12x + 8 = 0$$

$$(5x + 4)(3x + 2) = 0$$

$$x = \frac{-4}{5} \qquad x = \frac{-2}{3}$$

6. Factor the expression.

$$9x^2 - 25$$

$$(3x + 5)(3x - 5)$$

7. Factor the expression.

$$x^2 - 7x + 12$$

$$(x - 3)(x - 4)$$

8. Solve the equation.

$$9x^2 + 4x - 29 = 4x^2 - 3x - 5$$

$$5x^2 + 7x - 24 = 0$$

$$(5x - 8)(x + 3) = 0$$

$$x = \frac{8}{5} \qquad x = -3$$